

# Aviation News

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**Helldiver in Action:** In releasing first photographs of its latest warcraft, Navy discloses that Curtiss-Wright's new dive-bomber, which wreaked havoc on the enemy in its initial combat test in the Pacific, packs one big bomb or two smaller ones, completely housed in a bomb bay, instead of being carried externally. The result is better lines, improved speed, and greater striking power.

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## on missions of Mercy

*Spending in the front lines of battle—picking up the seriously wounded—bringing them back to sheltered base hospitals for immediate medical care—that is the vital assignment of the ambulance planes. Howard-built for the United States Navy and appropriately named the Howard Nightingale. All of Howard's vastly expanded facilities and energies now are assigned to wartime production. Ambulance planes (GB-2) and advanced trainer planes (NT-1) for the United States Navy. Primary trainer planes (PT-25) for the United States Army. With the advent of peace, these same facilities and energies will go into immediate action, to the service of commercial and industrial America.*

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## THE AVIATION NEWS

# Washington Observer

**TO HELL WITH HISTORY: WHAT'S THE PROBLEM?**—Is that classic remark in an index to Air Chief Marshal Sir Arthur Tedder, named as deputy to General Eisenhower, supreme commander of the European invasion forces. His appointment in recognition of the importance of an air leader in the planning and execution of this greatest of military operations. Lieut. Gen. Carl Spaatz, who will command the entire American strategic bombing force operating against the Nazis, will get full play for his talents and, with Spaatz supplementing the team of Eisenhower and Tedder. It is clear that a great share of the great month has been assigned to the Allied air forces and that coordination of land and air troops is to be more tightly knit than ever.

**AIRMAN'S AIRMAN**—Tedder is an aviator's aviator and orthodoxy and tradition in the military sense have no place in his make-up. In that he has a working partner in Spaatz, whose personal aviation history is known to all American aviation enthusiasts. These men helped run the Nazis out of Africa. Spaatz, it is understood, will direct all operations against Nazi industry and transport by American heavy-bombardment planes from any place in Europe and Africa except Russia. It appears that the air strength of the invasion forces is in good hands.

**BACKFLIP**—Some observers and commentators who suddenly discovered air power about two years ago and went overboard are now saying that the last soldier and the battleship held the key to victory. No sound aviator will deprecate one iota the immortal achievements of either of those arms. At the same time, it is difficult to see how anyone can deprecate the deeds of the AAF and naval aviation. The chief of Army Ordnance has said that Allied bombings of German industrial centers have affected not only the quantity but the quality of Nazi weapons and there is little doubt that dividends from Allied air power are beginning to pile up in decreased production and weakened German morale on the European front, and in Japanese attacks which lack their former punch in the Pacific. The results outweigh the losses. There is glory enough for all and this is no time in minimizing the importance of any member of the armed forces team.

**THE HELLDIVER'S NAME**—Credit for the new Helldiver, the Navy's new devastating dive bomber, is given by its builder, Curtin-

Wright, to Charles Hathorn, new patent engineer for the company's Buffalo plant, who had been project engineer on the Curtin XPBC-2. When the search for a name began, Hathorn recalled that the Dabchuck, a small bird, was also known in some parts of the country as the Helldiver. Research indicated that the Dabchuck, or Helldiver, was noted for its quickness in diving. Hence—Helldiver.

**A PLANE BY ANY OTHER NAME . . . ETC.**—In the copy of AVIATION NEWS' story on the Helldiver, reviewed by the Navy, the mis-spelling of one word was noted. This was pretty mystifying since the word had been fairly widely publicized. The line in the story in question said an Army modification of the "Helldiver," known as the A-24 Shrike, is being produced at the Curtin-Wright St. Louis plant. The word Shrike was stricken. The fact is mentioned here because the Curtin Fly Leaf magazine, which has been out for some time, devoted its center-



page spread in the A-24, with a heading in large and letters "Castro Shrike." The Curtin Shrike again goes on to explain that it is called the Shrike after a bird of that name which swoops down on its prey with a smooth, gliding sweep and takes it by surprise. "Illustrated here," says the story, "is the migrant or lagged Shrike, also called the Butcher Bird."

**BLAYLOCK AND THE HELLDIVER**—Whatever the name applied to this fine airplane, the principal name which should be mentioned is



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## Navy Releases Data on "Helldiver" As it Meets Enemy in Pacific

Streamlined Curtiss-Wright dive-bomber carries bomb load asternally; speed, braking devices listed among improvements.

By ALEXANDER McSURELY

A jet-bellied new Navy dive-bomber, whose agility and maneuverability belie its shape, has taken its place alongside its carrier-borne brethren, the Corsair and Hellcat fighters, and the Avenger torpedo-bomber, to complete what is believed to be the hardest-hitting, fastest-traveling Navy aerial offensive yet developed.

Announced that the Curtiss Helldiver SWC dive-bomber has gone into action in the Pacific is welcomed by Navy sources, since it gives the fleet carriers a full complement of planes incorporating post-Pearl Harbor improvements, with the advantages of higher speeds and longer ranges gained from higher horsepower.

**Demolitionist**—Newsman inspected the Helldiver recently at its home plant, the Curtiss-Wright factory at Columbus, and watched test pilots put three of the big dive-bombers through a demonstration

of formation flying, including short-length takeoffs, and landings, in affirmation of the statement of Capt. J. W. C. Brand, plant naval aviation inspector, that the Helldiver could take off and land from any carrier, even the baby carriers, used against submarines.

Closer aerodynamically than earlier dive-bombers, the Helldiver packs its one big bomb or two smaller ones completely housed in a bombay instead of carrying the deadly missile externally, as did most earlier dive-bombers. The result is a much better streamlining of the plane, improved speed, and the ability to keep up with its swift escorts.

**Braking Control**—Split flaps provide braking control in power drops while wind-up also mechanically operated in connection with the landing gear, provide improved lateral control at low speeds as the plane comes in for a carrier landing.



**"Helldivers" in Action**—Curtiss-Wright Helldiver, which has met its first combat test in the Pacific. It supersedes the team composed of Hellcat, Corsair and Avenger torpedo bomber.



**"Helldiver" Designer**—Raymond C. Raylock, project engineer of the Curtiss Helldiver and chief engineer of the Curtiss-Wright plant at Columbus, has been identified closely with Helldiver dive-bombers, starting with the first F4C-4 production Helldiver and the first Navy plane built specifically for dive-bombing operations.

A folding turtle-back, behind the red-oxen-gunner's seat, collapses to afford him improved visibility and to operate his guns over a greater field of fire.

Since first contract award, May 15, 1944, for a single experimental plane, many changes have been added, including armor-plate for pilot and red-oxen-gunner self-sealing fuel tanks, protected fuel and oil lines. The first experimental plane was flown in November, 1944, but the following year, it went lost when it crashed in a terminal velocity dive, from which Test Pilot Burton (Red) Hulse managed to escape by the parachute route. But tests were far enough along, and work had already started on production of the new Columbus plant and the first production Helldiver came off the line in June, 1945.

**Design Changes**—From July, 1942, until November, 1943, no fewer than 228 major changes were made, which resulted in many thousands



#### BRITAIN'S NEW PLANE:

Quintal issue of the Avon River, a transport version of the Lancaster bomber. It is a high wing, four-engine monoplane with a wing span of 152 feet and an overall length of 78 feet. Four Rolls Royce Merit liquid cooled engines power the plane.

of minor changes. As a result of these alterations, many of them recommended as results of combat operational experience, the ability of the Hellcat has been extended far beyond the original plans of the plane's designers.

While approximately 70 percent of the Hellcaters are being produced at the Fort Columbus plant, which was dedicated in December, 1941, just three days before Pearl Harbor, approximately 30 percent are being produced under license by the Canadian Car & Foundry Co., Ltd., of Canada, and approximately 10 percent by a second Canadian firm, Fairchild of Canada, Ltd. Meanwhile, an Army modification of the Hellcat, known as the A-28, is being produced at the Curtiss-Wright St. Louis plant.

► **Designer.** Credit for the Hellcat's design goes largely to Raymond C. Block, now chief engineer of the Columbus plant, who was assigned as project engineer on the plane at its inception, and who has followed it through to its present combat debut. Block, however, reports that approximately 300 engineers actually worked on the project over a two-year period, since the Columbus plant was opened.

The chief engineer, an engineering graduate from the University of

Michigan, has been with Curtiss-Wright since 1920, and designed a number of the earlier Curtiss fighters, including the 540C series and in service in Navy training stations, and used by the British under the name of Cleveland. Block spent many hours observing planes he had designed, under actual operation, and, as a result, and, as a pilot himself, understands the flyer's viewpoint on plane design as well as the engineering theory.

## Renegotiation of '42 Contracts Near End

War Dept. expects to complete job on 17,800 orders by Feb. 1.

The War Department will have completed renegotiation of approximately 40,000 war contracts subject to renegotiation by the end of January, Under-Secretary of War Patterson disclosed. As of Dec. 11, there had been 17,800 contracts assigned to the War Department for renegotiation.

As of the same date, the War Department had completed renegotiation with 14,356 contractors, representing more than 88 percent of all cases, and had started renegotiation in nearly all remaining cases. Renegotiation agreements have been concluded with practically all the largest war contractors and, it is estimated, cover about 90 percent of the dollar volume of 1942 war contracts subject to renegotiation. Increases, requiring no refund of excess profits or price adjustments, have been granted in around 60 percent of the completed cases.

► **Work Progress.** Patterson said that, while renegotiation was slow in getting under way because of the necessity for assembling competent personnel and for formulating policies, principles and procedure, the work in recent months has been progressing at a satisfactory rate.

"It is the case of most companies making adjustments as the result of renegotiation," Patterson said, "the excess profits realized are likely to be realized developed because neither the contractor nor the contracting officer was able to estimate accurately in advance the cost of new products as well as of standard products required in unspecified volumes."

► **Contingencies.** "Even now," he added, "after two years of war, many contractors feel that it is necessary to make some adjustments to provide for contingencies which often will not occur, such as wage

increases and work stoppages. "Furthermore, the departmental contracting officers dealing only with the price correction usually have no control over prices charged by subcontractors. With respect to

standard commercial articles, contractors are in many cases constrained on manufacturing their normal, peacetime prices, which often results in the realization of excessive profits or greatly expanded volume."

## FEDERAL DIGEST

# Increasing Surplus of War Metals Presents Problem for A. H. Bunker

New WPB vice chairman to assume direction of principal metal and mineral bureaus; summary of activities in U. S. agencies.

New and important problems arising from the growing surplus in many metals beyond direct and indirect military needs will confront Arthur H. Bunker, new vice chairman for Metals and Minerals of the War Production Board. Creation of this position by WPB Chairman Donald M. Nelson completes the reorganization of the former Office of Operations vice chairman.

Bunker will assume the direction of the Steel, Copper, Aluminum and Magnesium Bureaus, the Minerals Bureau, and the Minerals Resources Coordinating Division and its related committees. He has been director of the Aluminum and Magnesium Divisions of WPB, other than being associated with war production, he was executive vice-president of Lehman Corp.

► **Priority Regulation No. 13,** which has been revised, deal with aircraft inventory transfers or special sales in the petroleum industry, WPB announced. This regulation, governing special sales of idle and excess materials, was revised in order that all regulations issued prior to Dec. 23 shall have no effect on redistribution of such materials.

Outside the exceptions stated above, there is no need to refer to any order or regulation other than Priority Regulation No. 13, to find the rules governing a special sale of idle or excess materials. Aircraft inventory transfers are controlled by Directive No. 18 and special sales in the petroleum industry by Order P-36-c.

► **Aerocorp Corp.,** which manufactures self-sealing cockpits, base lines and fittings for aircraft engines at a plant in Jackson, Mich., has executed a contract with the Aircraft Corp. amounting to \$110,000. This will provide equipment and machinery. Aerocorp Corp. will operate these facilities, title remaining with DPC.

► **GPA announces** that program existing prices for aircraft-grade aluminum ingots and sheet. The present balanced supply position of aircraft material, GPA says, no longer requires the selection and assignment of these ingots, which have been strictly allocated by WPB. It is expected that requirements for aircraft material can now be met by Mills spruce and Noble fir, which reduces the necessity for premium prices on hemlock logs for aircraft.

► **Aviation Gas Plants.** Within the last three months, 11 more 150-octane aviation gasoline plants have been completed, according to the Petroleum Administration for War. These plants are already in production, PAW announced, and bring the existing prices for aircraft-grade hemlock logs up to local employment stabilization plans, all honorably discharged members of the armed forces—both men and women—will be helped to find jobs by their filing.

► **Children's Bureau.** A list of jobs considered too hazardous for its and 17-year-old workers has been sent to aircraft plants by the Children's Bureau, U. S. Dept. of Labor. Aircraft plants in general were considered by the Bureau as too dangerous for their leadership in seeking safe employment for these "teen-aups, and also in working out part-time work and school programs.

total of completed major 150-octane projects to 34. It is expected that 10 additional plants, now building, will be completed the early part of this year.

► **NLRB Election.** National Labor Relations Board ordered that an election be held within 30 days of Dec. 16, so that sheet metal maintenance workers in Dept. 104 of Douglas Aircraft plant in Oklahoma City may vote for or against representation by Sheet Metal Workers International Assn.-AFL.

► **Machine Tool Shipments** in November totaled \$17,543,000, a decline of about 15 percent from the October total of \$18,312,000, according to the WPB Tools Division.

► **War Manpower Commission** announced that regardless of any priorities set up in local employment stabilization plans, all honorably discharged members of the armed forces—both men and women—will be helped to find jobs by their filing.

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The Bureau's recommendations



## REVEALS AIR EXPRESS RECORDS:

Transportation of 10,000,000 pounds of air express by the nation's airlines during the first eight months of 1943 was reported by George Licking (right), air division manager for Railway Express Agency's express station, at an air traffic conference for Western Air Lines executives in Los Angeles. Total air express volume for 1942, he said, was 22,830,640 pounds. Licking said the nation's air carriers received a return of \$7,260,000 from a gross revenue of \$9,500,000 created by air express shipments in 1942. With him is Ray Grist, Western's air cargo manager.

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it is standard equipment on the majority of Uncle Sam's war birds.

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were prepared at the request of an airplane manufacturer and were worked out with a technical advisory committee composed of representatives from aircraft manufacturers and the unions. Entitled "Advisory Resolutions of the Aircraft Industry," the brochure is obtainable from the Children's Bureau in Washington.

• **Manpower**—An untapped pool of 31,000,000 part-time workers is available to alleviate manpower shortages, according to War Manpower Commissioner Paul V. McNair. These groups making up this potential total are: 1) 3,000,000 students over 14 years of age, many of whom are able to carry a part-time job in addition to their school work; 2) More than 5,000,000 non-worked women between the ages of 20 and 55 years, who are without children; 3) Almost 15,000,000 workers in lands, across and government, some of whom are able to work a few additional hours a day on a second job.

## Philadelphia Airport Shut as War Measure

CAR bases order suspending service by five airlines

By BARBARA FREDERICK

The City of Philadelphia, third largest in the country, has found itself suddenly cut off from transportation by air. An order issued by the Civil Aeronautics Board authorized the temporary suspension of service to that city by American Airlines, Eastern Air Lines, Transcontinental & Western Air, United Air Lines and All American Aviation.

Protested and enraged citizens of Philadelphia protested and asked why. Unfortunately, military secrecy would not permit the disclosure of the reason for suspension of service, other than to indicate that it was for reasons of safety.

• **No Protest By Airlines**—Civil Aeronautics Administration authorities were prompt to point out that this "safety" factor had nothing to do with the \$12,000,000 Municipal Airport, itself.

Contrary to reports is says Philadelphia newspapers, the airlines themselves did not protest the suspension order. They had, in fact, notified the Board two days earlier of their intention to discontinue service at Philadelphia on this date. • **New Field Foreseen**—Suspension of commercial air service to the city could not be foreseen earlier than from four to six months hence, the



## AMERICAN AIRLINES SURVEY CREW HONORED:

An American Airlines crew, which took part in an initial survey flight from New York to North Africa, has received the Air Medal in what American says is the first instance of the honor going to the entire crew of a combat carrier. Left to right are Maj. Gen. H. L. George, commanding general of the Air Transport Command, who made the presentations, John F. Davidson, crew captain and pilot; M. G. Beard, flight engineer; G. W. Smith, radio officer; and J. E. Brown, navigator and second officer. James R. Hay, AFM member of the crew, was on duty in South American when the medals were presented.

estimated time necessary to complete the Northeast Philadelphia Airport at Yardsville, now under construction. The field is said to have been leveled off and three runways partly constructed.

It is expected that American and Eastern will use Baltimore as an alternate, that TWA will use Reading, and United, Allentown-Lancaster service between these towns and downtown Philadelphia probably will be supplied.

• **Caden Airport Shut**—Caden Airport, which has been suggested by some as a possible substitute, was

closed as unsafe for commercial operation some time ago by the CAB, although the Navy is using it as a Primary Training Base. NATS planes that have been using the Philadelphia airport plan to use the one at Willow Grove, Pa. ATC has not yet announced its plans.

Prior to suspension of service, 32 flights daily were scheduled at the Municipal Airport, serving about 100 passengers a day, about half of whom were recently immigrants. According to Edward M. Shaffer, airport manager, a skeleton staff will be maintained at the airport.



## TCA HOLDS ANNUAL TRAFFIC CONFERENCE

Detroit and city traffic managers of Trans-Canada Air Lines met in Winnipeg for their annual traffic conference. The group included (front row, left to right), S. L. Blower, Windsor; J. T. Moore, Calgary; W. A. Campbell, Ottawa; R. E. Deane, Toronto; W. J. Delby, Winnipeg; W. G. Cochrane, Toronto; Miss E. H. Coates and Miss J. N. Leitch, Winnipeg; G. R. Wilson, Montreal; (back row, left to right), D. S. McLeod, Edmonton; J. J. Robinson, Vancouver; R. C. Bruce Hay, Winnipeg; V. M. Falcher, Winnipeg; S. S. Shaw, Halifax; N. S. M. Harting, Winnipeg; and Harper McNeil, New York.

# NAM Urges Equal Access to All In Use of International Bases

Post-war program on foreign trade outlined by manufacturers group in 95-page report on domestic, foreign issues.

National Association of Manufacturers has joined the ranks of advocates of equal access by all nations to airports used in international traffic. The Association's stand was outlined in a 95-page report on domestic and international aviation issues.

Drafted by a post-war committee and approved by the Association's board, the document finds that competition in post-war air transport, under proper safety and traffic regulations, and certification of public relations and convenience.

**Equal Treatment**—The report stressed that equal access to airports in international traffic and equal treatment for shipping in international commerce were important factors in post-war policy, if discrimination against American interests in foreign trade is to be prevented and economic rivalries are to be kept from developing the seeds of another world war.

Both subjects, the Association suggested, are vital to the post-war cooperation through international bodies. Such organizations as the International Labor Office and International Red Cross, the report said, involve no surrender of national sovereignty because they are based on voluntary agreements from which withdrawal may be made. The report said all nations should be allowed to join in decisions on international air and sea shipping, with participating nations barred from the rights of the participants.

**Post-war Agreements**—As an insurance of the freedom of the air, the report said, the United States should support any program of progressive conclusion of lend-lease balances due this country be cashed in on recognition of this asset. Emphasis was made that the "freedom of the air" principle, however, would not affect a nation's right to limit domestic transportation to planes and ships of its own nationality.

In line with its traditional view, the Association favored competition in post-war air transport in preference to a single American air line in the international field. Subsidies in international transport or export trade were opposed, unless necessary to national defense.

## Lea Bill

Latest data on which proponents of the Lea Bill (HR 3498) in the Civil Aeronautics Act expect it to reach a vote in the House of Representatives is sometime between Jan. 12 and Feb. 1.

Representative Lea is reported to have urged that the House Back Committee, in which the bill stands when Congress adjourns over the holidays, bring it to the floor by the earlier date.

## WTS Chief to Speak

R. McLean Stewart, executive director of training for the War Training Service, will address the annual meeting of the Civil Aeronautics College in Cincinnati, which will be held Jan. 12-14. He will discuss aviation training in colleges and universities.

## Wilson Sees Greater War Effort Ahead

A warning against any undue optimism over an early opening up of general aviation production has been made by Charles E. Wilson, WPR executive vice-president, who said a bigger job lies ahead for the War Production Board in 1944 "than even the miracle which was accomplished in 1943."

Wilson agreed with the forecast of General H. H. Rowley that the war with Germany would end in 1944, but emphasized that neither the War Production Board nor military leaders could safely count on a quick collapse of Germany.

**New Phase**—He added that just as the war is entering a new phase, so is the work of WPR, and stressed that, while there would be numerous setbacks this year, in the overall picture, for every line of production that comes up, another will expand.

"There is no alternative," Wilson said, "We simply must meet the demands of the military—and they'll be much bigger than those

of 1943, just as the effectiveness of the United Nations will be bigger."

**Progressive**—He outlined the perspective of the War Production Board this time. Direct war needs—shipping staff—comes first, 3. Next most important is to provide for land-based civilian needs to maintain health, sanitation and transportation, training war workers to do the work. A peak of efficiency, 3. WPR will strive to produce as many more needed civilian items as can be made without interfering with war production.

## Canada Route

### Filings Unfrozen

In a memorandum to all air carriers, issued last week, the Civil Aeronautics Board unfroze certain applications for air service between the U. S. and Canada. It has decided to process such applications immediately of American, Colonial, Pennsylvania-Control and United.

Following a protracted conference on Colonial Airlines' application for a route from New York City to Montreal, U. S. which was counsel and counsel for other airlines claimed that the proposed service was, in effect Canadian-U. S. service, as Colonial also has an operation on the air service between Montreal and Ottawa, an opinion from the board was asked.

**Hearings Resumed**—After a suspension of hearings on all applications shortly after Pearl Harbor, the CAB has been gradually restarting certain cases for the calendar. Latest step in this direction was the release last September of applications for the Caribbean, Central and South America and Western area, and a bigger job lies ahead for the War Production Board in 1944 "than even the miracle which was accomplished in 1943."

## C. & S. Mail Rate Set

For the first time in its history, Civil Aeronautics Board has made final a "house code" order without going through the further detail of writing an opinion on a case.

Mail compensation rate for Chicago and Southern Airlines was set by the Board at \$3.93 per pound-mile on an airport-to-airport basis. The rate was set in effect February, when most of the other air carriers received similar orders, was at first opposed by Chicago and Southern, and went through the usual procedure.

**Objections Withdrawn**—Recently,

the airline withdrew its objections to the mail rate reduction, and as the petition of the American Newspaper Publishers Association is in force, because of a misconception of a CAB decision about advertising also was withdrawn, there were no further objections pending in the case. To expedite matters, the CAB made the above order final.

By this order, Chicago and Southern's mail pay is reduced by approximately \$670,000.

## U. S. Air Imports

Air imports into the United States during 1943—"a very vital and important part of our requirements"—amounted to nearly six percent of the value of imported war supplies, according to Donald M. Nelson, War Production Board chairman.

The air movement was about 11 million pounds with a value of \$115,200,000, or 5.83 percent of the total value of ocean cargo. Value of the average air-shipped unit was \$2.45 a pound, or 81 times the 24¢ ocean cost per pound for ship cargo.

The Board reported that 672 percent of the 35,150,000 lbs. of value carried by water.

**Valuation**—Nelson said "it might be said that during 1943 a unit of air cargo was 1,351 times as expensive as a unit of ocean cargo, 81 times as valuable, about 20 times as safe and saved more than six times as fast as cargo on ocean vessels."

He pointed out that for such long hauls, the United States by air, 4.17 percent of the total value, a figure higher than estimates early in the year that air cargo would compete with ship cargo paid for ton.

## Paper Work Eased For Private Flyers

Private flying outside vital defense areas has been relieved of burdensome paper work, the Civil Aeronautics Administration reports, as the result of Civil Aeronautics Board enactment of regulation amendments proposed by the CAA and approved by military officials.

No longer need the pilot on such a flight file information on the proposed flight and submit clearance for it. The CAA says recording by airport authorities of takeoffs and landings will be considered sufficient protection. All aircraft owners and pilots already have been encouraged to be certified for legality by the CAA.

## Laister-Kauffman And Bowles Merge

Aircraft firm acquires sailplane company through exchange of stock.

Laister-Kauffman Aircraft Corp., St. Louis, and Bowles Sailplanes, Inc., Los Angeles, have merged with an exchange of stock by which Laister-Kauffman acquires ownership of jugs and dies of Bowles' master-, dual- and 13-place gliders.

The Bowles Company has not been in production for several months. It was organized in 1939 to take over the glider business of Howley Bowles, Bowles, who withdrew from the company more than a year ago, now is chief engineer of General Airborne Transport Corp.

**Establish on Board**—The directorate of Bowles Sailplanes is a blue-ribbon of the West Coast aircraft industry. On the board are Donald W. Douglas, Bobson Fleet, Carl Squier, Tom Wolfe, Dwight Whiting, and Col. Edward S. Evans. Stakeholders include John K. North, president of Northrop Aircraft Corp., Robert Gross, president of TWA and Ronald Berlin, North American Aviation.

Laister-Kauffman Corp.'s major current project is a thirty-place cargo glider. The company is said to have taken over the completion in St. Louis of West CG-4A Gliders newly completed in Los Angeles when the government canceled Tamen Aircraft Corp.'s glider building contract.

## Plane Engine Design Topic for SAE Meet

Design details of wartime and post-war aircraft engines will feature the discussion at the 1944 war engineering annual meeting of the Society of Automotive Engineers in Detroit, Jan. 10 to 14.

John A. C. Werner, SAE general

## Sailplane Record

Setting Society of American aeronautics certification of a new American altitude record for sailplanes, set last July by Keith G. Anderson, Los Angeles pilot. The record of 15,528 ft. shows pilot of release between 2,500 feet the previous record set by Robert Stanley, Bell Aircraft Corp. pilot.

manager, and the SAE aircraft and aircraft-engine activities would sponsor seven of the program's 22 technical sessions on engineering subjects, new personnel and air of aircraft, with preview of problems developing in the field of post-war civilian flying.

**Progress**—Aircraft engine sessions will be devoted to standard synthetic rubber applications, fastener methods, porting, cylinder design, powerplant testing and cooling. Subjects to come before the aircraft sessions include lumber design details, production design changes, new aircraft cargo developments, mechanical characteristics of aircraft steel, and all-weather operations.

Joint sessions will be held on structural light research and experimental flight research. A special session will be devoted to post-war civilian flying and to privately owned planes.

May Gen. G. M. Barnes, Army Chief of Staff, will speak at the SAE war engineering dinner on Jan. 12. Other speakers will include SAE president-elect W. S. James, of Studebaker Corp., and SAE meeting president Mac Short, of Vesp Aircraft Co., Chrysler Corp. President A. T. Cowell, of Thompson products, will be master of ceremonies.

## NRLB Denies Raise To Brewster Workers

Plant guards awarded weekly bonus of 10 percent.

National War Labor Board has denied a joint request by Brewster Aeronautical Corp. and United Automobile Workers, CIO, for a general wage increase of two cents an hour for employees at the company's Long Island City, N. Y., plant.

The company and union based their request for the increase for production workers on an allegation of a hardship worked as a result of Executive Order 10589 which forbids payment of time and a half or double time for Saturday or Sunday work unless such work is on the sixth or seventh day of continuous work week and also limits the number of holidays for which premium can be granted to six.

In denying the request for the two-cent increase, the NRLB said labor members dissenting, reaffirmed a decision handed down last August. The Board approved a weekly bonus of 10 percent to the plant guards to compensate them for savings lost as a result of the Executive Order 10589 on overtime.

## THE AIR WAR

### COMMENTARY

## Appointments in India-Burma Area Follow Precedent in Mediterranean

Additional units, such as Aviation Engineers and Photo Reconnaissance, expected to come into picture as operations are stepped up.

A few days ago, Admiral the Lord Louis Mountbatten, exponent of "combined operations," advanced his preparations another notch by merging units of the RAF in India and the U. S. Army Tenth Air Force into a unified air force.

The newly created Eastern Air Command is headed by Air Chief Marshal Sir Richard Peirse, one of the RAF's leading exponents of strategic bombardment. During 1943, Sir Richard was chief of Staff, Eastern Command in England and during the first quarter of 1942 was transferred to India when the Japanese juggernaut was rapidly overrunning Malaya and Burma, and the threat to India appeared very real.

**Air Objectives in India**—Another air officer who is an enthusiast for the strategic possibilities of the long-range bomber, Maj. Gen. Lewis H. Brereton, reached New Delhi at about the same time, with the same immediate and long-term objectives. The immediate objective—the air defense of India, necessitating a sudden shift from the previously sheltered northwest India with its overlanded Khyber Pass to the northeastern section, with its almost complete absence of airfields. The long-term objective—to transform India into a huge, powerful base for concentrated air bombardment of Japanese industries through forward bases in China.

The immediate threat was removed by Japan's swing to the South Pacific in an attempt to cut off Australia as the Ono-Tokyo springboard. Nearly two years later the increased strength of the RAF and the long-term objective, with India and the U. S. Tenth and Fourteenth Air Forces, looms on the horizon.

**American Units**—Deputy Commander of the SAC in Maj. Gen. George E. Stratemeyer, who was

chief of Training and Operations (A-3) at the time of Pearl Harbor, and later Chief of the Air Staff until his transfer to India after the Quebec Conference.

Following the highly successful air operations developed last spring in the Northwest African Air Force, the main striking air forces were the Strategic and Tactical. The Tenth Air Force, under Brig. Gen. Howard C. Davidson, who was commander of the Fourteenth, Fifth, Wing, Wheeler Field, T.S.I. in 1941-42, becomes the Strategic Air Force is the new Eastern Air Command, for long-range pounding of enemy installations, ports and communications.



SPERRY IN INDIA:

Paul Cullen, standing, Sperry Gyroscopic Co. service engineer, set up a shop in Bangalore, India, to overhaul flight instruments on Allied planes in that war theater. Cullen reported his Indian technicians were capable and eager to learn the highly technical job of plane instrument repair.

tions Equipment includes Liberator and Mitchell, Wellington and Mohawk, and their fighter escort, with occasional use of fighter-bombers.

**Tactical Air Force**—Air Marshal Sir John Slessor, who has been leader of the RAF Bengal Command, will head the Tactical Air Force, for close cooperation with ground forces in the coming Burma campaign. These appointments closely follow the Mediterranean setup, as will be seen from the following comparisons: Air Marshal Baldwin corresponds to Air Marshal Cunningham of the Tactical Air Force of the NAAF; Gen. Davidson to Gen. Doolittle of the Strategic Air Force; Gen. Stratemeyer to Gen. Spaatz, overall air deputy, and Air Chief Marshal Peirse to Air Chief Marshal Tedder, air commander under Gen. Eisenhower, who as commander-in-chief of the theater as a whole may be compared with Admiral Mountbatten here. If, anywhere, is a pattern for victory.

**Other Units**—For complete air operations, certain highly essential non-combat units were organized in the North African campaign. These included the Aviation Engineers to keep airfields one jump ahead of the Tactical Air Force; Photo Reconnaissance unit to supply up-to-the-minute air intelligence as to enemy positions, bombing objectives and results; Air Service unit



## Attack on Ploesti

August 2nd, 1943. In the early dawn of that day, 177 Liberators took off from a newly-won airfield in North Africa. Target: the oil refineries of Ploesti, Rumania. Distance: round trip, 2000 miles. Ploesti was pouring into Germany fuel for its war machines. To knock it out would cut a vital artery of the enemy.

Knewed out it was! Even though our bombers had to fight their way over hundreds of miles of enemy territory. Even though they had to go through murderous ground fire—coming in as low as 100 feet to make sure of such target assigned. Meticulous preparation, distance flown, defenses penetrated, results

achieved, marked the attack on Ploesti as one of the epic flights of the war.

Skill in flying by instruments is a vital part of the training which makes such perilous flying missions successful. All our pilots receive instruction in the Link Trainer, which is used to teach not only instrument flying, but also navigation and bombing. This training adds weight to the air offensive, conserves lives and planes.

Aviation looks to Link for creative engineering, for high standards of manufacture. Look for the name LINK on precision products after the war is won. LINK AVIATION DEVICES, INC., Binghamton, N. Y. —Link Trainers, Aviation Simulators, Calibrators and other products contributing to the safety of flight.







#### CAP REUNION:

Col. Erik L. Johnson (center), National Commander of the Coast Air Patrol, and Capt. Bob Anderson (right), and Capt. Bob Anderson, intelligence officer at the Maclean Coastal Patrol base, have a reunion in Detroit. Johnson and Anderson are both members of the Duck Club, both having made forced landings in the sea while flying coastal patrol.

to keep 'em flying, and Troop Carrier units to get 'em there first with the most. As air operations are stepped up in the India-Burma area these additional units may be expected to come into the picture.

According to the original dispatches from New Delhi, such specialized organizations as the India-China Wing of the Air Transport Command and units of the Air Service Command were not included in the initial set-up of the Eastern Air Command.

—REYNOLDS

## Allies Reassign Top Air Commanders

Tedder, Spaatz, Doolittle, and Esker give new duties for coming invasion

Military appointments on the air war front in last week were headlined by that of Air Marshal Sir Arthur Tedder, who will keep General Dwight Eisenhower's air team together with command of all Allied air powers operating from Britain.

Last Gen. Carl Spaatz was charged with all USAAF strategic bombing of the Continent Gen. James H. Doolittle, former of Japan and head of strategic air forces in the Mediterranean, was moved to command of USAAF operating from Britain, taking charge of the anti-aircraft air attack.

Esler Gets Mediterranean Post—Last Gen. Irvin C. Esler, commander of the USA Eighth Air Force, which perfected the daylight precision bombing which laid in ruins many military and productive works in Europe, because commander of all Allied air forces in the Mediterranean.

Commenting on the transfer of General Esler to the south, some Army spokesmen said unofficially that they believed the assignment of strategic bombing would be in Italy and Mediterranean coast ports.

### Aid to Russia

United States lend-lease shipments of supplies to Soviet Russia totaled nearly 7,000 up to Oct. 31, 1944, according to a report by Leo T. Crowley, Foreign Economic Administrator. This is more than has been sent under lend-lease to any other area.

Crowley made the stepped-up step of aid is indicated by the fact that the first ten months of 1944 shipments were 61 percent heavier than in the entire year 1943.

Total lend-lease shipments to Russia through the end of October amounted to \$2,528,444,000, of which \$1,891,100,000 were military items, \$664,544,000 industrial materials and \$968,800,000 foodstuffs and agricultural products.

to be captured, because of the military weather, and because of shorter range to areas still held in Germany and Nazi-occupied regions in the east.

Training Commands 12th—Major Gen. Nathan Twining, Commandant of Allied Air Forces in the Southwest and of the 13th USA Air Force, South Pacific, all under General MacArthur, moves to command of the newly-organized 12th USA Air Force in the Mediterranean. He reports to General Eaker.

Last, Gen. Jacob L. Daves, Commander of all American Air Forces in the European theater, headquarters in England, now heads all U. S. Army Forces in the Mediterranean. He reports to Gen. Sir H. M. Wilson, new Allied Commander in that theater, Gen. Kober reports to Daves.

At present, the successor to command of the 12th USA Air Force in the South Pacific had not been named.

## Cessna Converting To Parts Output

Company's 1945 financial statement shows of changes in production and profit of \$2,106,414.

Dwight L. Wallace, president of Cessna Aircraft Co., has disclosed that his company is converting its production facilities to manufacture of component parts for tactical bombers.

This action is particularly significant in view of Wallace's explanation that the need for twin-engine training planes which Cessna has been making as well as the need for utility cargo planes is declining and that production of this type of aircraft will be completed in the near future. He said the new work would utilize fully the production facilities of the plants.

Financial Report—Wallace's statement was made in connection with Cessna's annual report for the fiscal year ended Sept. 30, 1944, which showed a net profit of \$2,284,434 after charges, federal taxes and a reserve of \$821,566 for reconversion. The net profit is subject to renegotiations.

It is equal to \$2.31 a share on 38,900 shares of capital stock and compares with a net profit of \$728,302 or \$2.11 a share in the preceding year when after reserve of \$1,254,444 for policy adjustments and conversion a \$4,792,979 for a refund on U. S. government contracts.

## AIRCRAFT PRODUCTION

## Revision of Wage Rate Schedules Expected in 6 Coast Plane Plants

NWLB orders comprehensive study of work and job evaluations in factories in southern California area.

The complex Southern California aircraft wage problem is undergoing a thorough examination with indications that there will be a revision of wage rate schedules in six companies in that area.

The National War Labor Board has instructed its West Coast District Council members to undertake an over-all study, including necessary hearings and examinations of work in progress, of job evaluations and job descriptions of the Southern California aircraft industry.

Wage-Labor Group—The SCAL set up specifically to handle wage and labor matters, includes the major companies who are also members of the Aircraft War Production Council. However, the Council organization prohibits any such activity, it being set up simply to make more airplanes quicker—a concession on war production, excluding other matters, even though of mutual interest.

The War Labor Board has voted to appoint a tripartite panel to hold hearings in Los Angeles shortly, to hear evidence presented by the United Automobile, Aircraft and Agricultural Implement Workers of America, CIO, the International Association of Machinists, AFL, and the National Union, United Aircraft Workers of America, Independent, on their requests for revision of wage rate schedules.

Panel to Report—The panel also will hear the reply to the annual petition from Consolidated Vultures, Douglas, Lockheed, North American, Northrop and Ryan.

The panel will report to the National Board on the relation of the clause in the petitions to the wage stabilization program and to the establishment of the general level of wages for the Southern California aircraft industry as directed last March 30. The general wage freeze of that time has been a constant subject of discussion in the industry, and labor circles have indicated from time to time that revisions upward have been considered.

Boeing Situation Eased—A revision upward, approved for Boeing some weeks ago, has been of unclouded aid in easing Boeing's manpower situation and the situation at Boeing has been closely watched by the industry.

Complicating the Southern California problem is the fact that many of the plants have madeworkers operations and that it is necessary from time to time to transfer personnel. This involves a different wage structure and may decrease made in Southern California is bound to have repercussions not only at Midwest plants but at Boeing, which also operates a Midwest plant.

Petition—A joint petition was filed with the War Labor Board on Oct. 6, 1943, by the International Association of Machinists, the UAW-CIO and the United Aircraft Workers asking the Board to amend its three-

live of March 9, in the West Coast aircraft industry cases by requiring an over-all study and revision of the SCAL job evaluation plan and an immediate upward revision of the rates assigned to particular labor grades.

On Dec. 11, after the Machinists petitioned for a strike vote, the UAW and the United Aircraft Workers filed a supplemental petition with the War Labor Board announcing their withdrawal from the Oct. 9 joint petition and reaffirming their no-strike pledge.

Adjustments—Proposed wage adjustments constitute a clause for a general increase in wage schedules, which new secondary the SCAL job classification. The petitions seek a minimum living-in rate of 80 cents an hour, illustrating the present 68 to 78 cents. Upward revisions are sought in other classifications.

## Manpower Problems Analyzed by AWPC

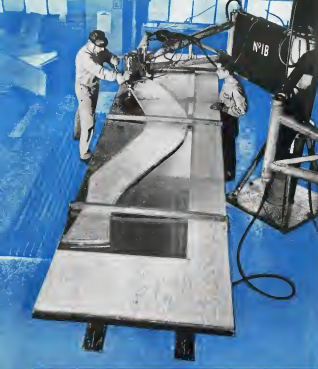
Over 45 percent of men and 39 percent of women leave jobs without working a year, reports show.

Labor turnover, which is still plaguing aircraft production, is pointed up by reports of the Aircraft War Production Council which show that of all the workers who quit their jobs in one month on the



### SUPER BOMBER PLANT:

First photograph of the Bell Aircraft bomber plant near Marietta, Ga., which has been cleared for national magazines. The track in the foreground is emerging from a basement entrance. All manufacturing activities are confined to the ground floor and the two mezzanine sections. Basement contains cafeteria, locker rooms, office, tool crib and rooms for temperature control and air compressing machines.



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## FABRICATED PLANE PARTS...

**B**IGGEST WORRY of war manufacturers today is the problem of getting enough good help. In the airplane industry this situation is particularly acute. It would be worse, except for the fact that Reynolds is saving thousands of man-hours of airplane labor by supplying completely finished parts to every leading manufacturer of fighting planes.

Simple and obvious as this service seems today, it has been available for only three years. Reynolds pioneered it . . . built the organization needed to deliver it . . . was the first aluminum manufacturer to supply finished plane parts from aluminum sheet.

Every production man knows that the savings are substantial. Besides conserving scarce manpower and valuable floor space at the airplane plant, the Reynolds plan does away with needless handling and crossshipping of scrap, averaging 30% of every sheet. And this scrap gets back into useful aluminum in three days instead of three months!

The Reynolds organization, now operating 60 plants in 14 states, has been built by this kind of progressive, cooperative thinking and planning. Reynolds men are constantly searching for new ways to make aluminum better, and make it easier and cheaper to use. If you have a problem of any kind in working with aluminum, you will find Reynolds into the resources, equipment, and engineering skill to help you solve it in the most practical way. Reynolds Metals Company, Louisville, Ky.



ALUMINUM SHEET of every type is available now at Reynolds, ready for quick fabrication into finished plane parts of any size and type. Save your own manpower and floor space for the final vital job of quick assembly.

THE GREAT NEW SOURCE OF

# ALUMINUM

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West Coast, 3.95 percent of the women and 3.66 percent of the men were 15 days or less.

In addition, 6.18 percent of the women and 6.88 percent of the men turned in their badges without working 30 days. At the end of three months, 4.99 percent of the women and 5.43 percent of the men had left their jobs. Other indexes show 43.94 percent of the women and 39.49 percent of the men left their jobs without working a full year.

► **Seasoning**—After one year at the above rates, approximately 38 percent of the total number hired for that year went away from production lines, and surveys indicate that they did not go to other aircraft plants in any appreciable numbers.

Of all the new hires, the Cessna reported, less than 5 percent ever had previous airplane building experience, proving pretty conclusively that the workers just did not shift from one aircraft plant to another and back again.

► **Loss \$3,666 a Month**—Council members on the Pacific Coast still are losing about 17,000 workers a month through turnover. In addition, to loss of man-hours and money spent on training and hiring this many workers, the council points out that the workers not only take up the initial skill they can put into building airplanes, but they also take with them the time and energy and effort of large numbers of trained men and women who

must remain in a classroom course. **What's happening** some people have to do jobs that have to be filled later and again.

## Convair 1943 Output Over 126,000,000 lbs.

Nearly 2½ times 1942 production, Chairman Tom Girdler reports.

Consolidated Vultee Aircraft Corp. produced well over 126 million pounds of surplus in 1943, Tom M. Girdler, chairman, has reported, nearly two and one-half times the 1942 output of 53 million pounds of airplanes.

Girdler, in a summary in the current issue of *Planes Talk*, company magazine, points out that the number of planes the company is building cannot be disclosed, but that the comparison of the weight of production is significant of the tremendous increase made during the last year.

► **Backlogs Output Spurts**—"In our San Diego plant, in the first month of the year, the average employee produced 24 pounds of airplane," Girdler said. "By October of 1943, he was producing 153 pounds per month. His efficiency had been multiplied over six times."

Girdler said that, compared with national averages for heavy bomber output, production figures for

Consolidated Vultee were even more striking. He cited the practice of the War Production Board, which compares output of all aircraft plants in terms of pounds of planes produced per man per day.

► **National Average**—It reported a national daily average of 4.6 pounds of planes per man, for the three months ending October, in all plants producing heavy bombers. The figure for Consolidated Vultee's San Diego plant, Girdler said, was almost twice as high, since the WPB report put it at 8.3 pounds.

"The result is that men here needed at San Diego to produce Liberators have decreased constantly," Girdler said. "We are now producing 14 Liberators for the same direct labor that had only one three years ago."

► **Pre-World War Figures**—Girdler pointed out that same people still believe an idea that America's aircraft industry was a backward institution up until the time of World War I. "Nothing could be further from the truth," Girdler said and cited the fact that Consolidated already had in production two planes which would be going under the name of the air force.

Girdler said more than 100,000 men and women are now working in the 13 divisions of Consolidated Vultee.

## Plant in Production On Huge Army Glider

Northwestern Aeronautical Corp. output expected to reach peak in 1944.

Northwestern Aeronautical Corp., which recently tested the largest West glider ever built for the Army Air Forces, now has this craft in full production at its Twin Cities plant, and John Parker, president, said output would reach peak in 1944.

The new craft, described as a tactical transport, is an elaboration of the basic plane in the construction of the troop transport glider successfully used in the Mediterranean theater.

► **Long-Range Operations**—As a result of the experience acquired through war operations, the glider production program for the future calls for aircraft designed and built for long-range operations rather than for those abandoned after one flight. In line with this program, the new gliders are equipped with a landing wheel assembly as well as skids.

Originally, the smaller-type glider

was equipped with wheels which were dropped off after the takeoff, and landings were made in a small space by using skids. The wheels, however, provide protection for the craft and keep it in condition for further use.

## Gabriel Co. Buys Int'l Metal Hose

Gabriel Co., Cleveland, manufacturers of shock absorbers and hydraulic equipment, has purchased all machinery, equipment, inventory, patents and good will of International Metal Hose Co., manufacturer of flexible metal tubing and gasoline hose couplings.

William E. Miller will continue as general manager of the new company, John H. Briggs, president of Gabriel, announced. Briggs is executive vice-president of Gabriel to E. W. Klein, vice-president and sales manager for many years.

## War Dept. Names 2 To Adjustment Board

Two new appointments to the War Dept. Price Adjustment Board are Lt. Col. Gladding B. Cox and Lt. Col. William C. Harrington. Col. Cox is chief of the renegotiation branch, renegotiation division, Army Service Forces, as well as assistant to the chairman of the board.

He is a former vice-president of the Commercial Investment Trust of New York.

► **Insurance**—Col. Harrington, who is cordian life, is past owner at Spessell, Harrington & Thomas, a general insurance and mortgage banking firm of Atlanta, Ga., in field operations chief of the renegotiation division.

Other members of the War Dept. Price Adjustment Board are Joseph M. Dodge of Detroit, chairman; Maurice Elmer of Houston, vice-chairman; and Corren G. Blough of Chicago, who represents the War Production Board.

## Boeing 1943 Record Above Expectations

December best month in firm's history, Johnson reports.

Quantity production beyond the greatest hopes of two years ago was achieved by Boeing Aircraft Co. in 1943 in the output of flying Fort-



**LIBERATOR BALL TURRETS:**

Here's a line of turrets which will find their way into the bellies of Consolidated's Liberator bombers. These workers are readying them for installation and overhauling of the .50 caliber machine guns.

resses, P. G. Johnson, Boeing president, reports in a review of the year. Johnson lists as highlights:

► **P.L. December production** was the highest in the firm's history for a single month, at 56 percent higher than output in January, 1943, and ten times the production during the month preceding Pearl Harbor.

► **Flying Fortresses** are being built at an approximately one-third the man hours required at the start of the outbreak and in only 10 percent of the man hours required to build the first bomber of the firm's initial production contract in pre-war days.

► **Waterbury** has an 87 percent increase in labor rates since Pearl Harbor and the incorporation of numerous "new necessary changes." Fortresses are being delivered to the government today for approximately 100-110 of the contract price at that time.

► **Boring** only this year voluntarily advised the government that as one contract, the established contract price would be reduced by \$120,000,000.

Johnson said the Army's schedule called for delivery of more Fortresses each month over the preceding month and added that for a full year, with no increase in manpower, Boeing had met each month's schedule by constantly introducing new production methods and increasing plant efficiency.

► **Manpower Problem**—From May to September, during the height of the manpower problem, Johnson said it was possible only to maintain the production level and that it could

not be increased further without additional manpower.

The situation eased in September, when Boeing's wage rate was revised upward and additional manpower was also obtained through the opening of Boeing branch plants. With the added manpower these developments brought, and through labor utilization plans, the output was accelerated during the last three months of the year with the Army's schedule was overtaken.

► **More Workers Needed**—Johnson noted that, while employment conditions have improved, they have not changed sufficiently to meet the Army's increased demands in 1944 and that workers are needed by Boeing to meet normal requirements in the Seattle plants and to provide for requirements at Renton.

The Renton requirements, he pointed out, will be especially pressing, because full quantity production will be needed there this year on the Boeing B-28 bomber.

## Huge Chrysler Plant Ready for Production

Army has permitted disclosure that the new Chicago aircraft engine plant of the Dodge Division of Chrysler Corp., the nation's biggest war plant, is now ready for full-scale production. It has nineteen buildings.

► **Bigger Than Willow Run**—The giant plant dwarfs other aircraft



**GOODYEAR DEVELOPS ICE-GRIP TIRE:**

Clare J. Burkley, Tire Design Research Department of Goodyear Tire and Rubber Co., has been awarded the Contract of Individual Productive Merit by the WPB for development of an ice-grip tire for military planes engaged in arctic operations. The tire has small springs embedded in it such a fashion as to cause the corner of wheel to protrude slightly, thereby wearing down as the tread wears.



## skill counts

Much of the work at Mercury is the making of assemblies on which others have failed . . . because Mercury's 30 years of aircraft manufacture has developed the technical skill which can come only from long experience.

## speed, too

Speed in tooling, in manufacture and in maintaining stiff delivery schedules is not just a matter of machines and man-hours. Here, too, skill counts . . . efficient methods, effective supervision and precision production which meets every requirement, come only from skill based on experience.

aluminum, steel and all tanks & sleeves, dies, cutters and similar machine & aircraft parts and accessories.

as The Cradle of Aviation



facilities as evidenced by the fact that Willow Run could be set down in the main building, with enough room left to lay out 16 baseball diamonds. The main building, the machinery assembly unit, covers 89 acres and has 3,300,000 square feet of floor space.

The plant has not been idle, awaiting completion, for machine shops have been turning out parts for Wright's 1,300 hp. engine for some time.

Employing 28,000—Even the energy of airplane engines on testing blocks does not go to waste. The propeller shafts are connected to generators that will produce current capable of operating half the plant, according to engineering officials. It employs more than 25,000 persons on full-scale production.

## Auto Plants Make 41% Plane Materials

Output rises from pre-Pearl Harbor rate of 400 million to 4.3 billion annually.

Production of aircraft material accounts for 41 percent of total war output of the automotive industry.

In the two years since Pearl Harbor, the Automotive Council for War Production reports, the industry's output of bombers and fighters has constantly increased and, measured in dollar volume, rose from \$161,000,000 pre-Pearl Harbor annual production rate to \$4,300,000,000, in December, 1943.

On the date of our entrance into the war, military vehicles were 32 percent of the automotive industry's output of war supplies. The figure has nearly tripled, yet such vehicles now constitute only 33 percent of the stream of war weapons in the same two-year period, aircraft production has risen in the automotive industry from 33 percent of factory output to 41 percent.

## Gear Shavers Speed Wright Motor Output

Save 43,000 man-hours per year, Studebaker parts plant manager reports.

A saving of 43,000 man-hours a year in the production of Wright Cyclone engines for Flying Fortresses has been achieved by Studebaker Corp. from an application of shaving machines to a 19-tooth pinion gear which is carried in sets of 26 on each engine.

George W. Henson, general manager of the Studebaker aircraft engine parts plant, and a single worker on gear shavers can produce as many units as five on grinders, aside from the conventional machine for shaping finished aircraft engine gear teeth.

Reduces Errors—Scrip has been all but eliminated, he said, by the fact that in-built precision of the shavers reduces the possibility of human grinding errors. Henson rated the machine saving as equally significant to production as fewer



## BOMBIGHTS PHOTOGRAPHED

Four patterns of bombights have been cleared for publication. This photo indicates how mass production techniques have been introduced into manufacture of these precision instruments by AC Spark Plug Division of General Motors. This is a section of one of the assembly lines.

main hours. Four piston gear shavers have replaced 23 generator-type grinders.

"As the war-converted automobile industry has learned," Henson explained, "gear grinding machines have represented an equipment bottleneck. With our piston gear shavers, we found it necessary to re-focus the grinding wheel after every pass. This obviously added to production delays and cost."

Shaving as Tools—"The high speed steel cutting tool used in the shaving machines is good for 5,000 pieces. Each tool will take four regrinds. A run of 35,000 pieces is thus possible before replacement of the tool."

Because of metal distortion and varied design, Henson did not foresee an immediate spread of shaving to all aircraft engine parts, at least not to the extent that the practice is followed in automobile engines. He added, however, that experiments are continuing.

## Brech Sees 1944 As Big Air Year

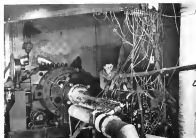
Brexit president cites war rule and conversion progress, also goes in 1943.

Ernest R. Brech, president of Brexit Aviation Corp., sees the American aviation industry playing a decisive role in the two-fold drama of 1944—first, the war itself with bigger, better and more efficient planes rolling out of aircraft plants, and second, conversion from all-out war production, in which he does not believe the aviation industry will be an active participant.

While Brech believes that as aircraft plants will figure in actual conversion developments this year, he does feel that this industry, No. 1 in the country in terms of dollar volume and manpower employed, will be in the foreground of all thinking and policy-making regarding transportation and investment of war contracts, disposal of inventories of raw materials, allocation of materials for civilian manufacturing and similar problems of vital concern to re-establishment of a healthy post-war economy in this country.

Production Gains—Brech puts the 1943 production of American industry at \$11,000,000,000 worth of plants, representing a 146 per cent increase in turnover since 1942 and believes this pace will be maintained in 1944.

"What such a giant industry does



## IN-LINE ENGINE TESTER:

It takes Wright Field's power plant laboratory workers three days to install a big in-line engine on a supercomputer testing stand. In center is shaft leading from engine to dynamometer. Each line gauges oil pressure, manifold pressure, supercharger, temperatures of cylinders, head, base, and oil fuel

in wartime and what happens to it when peace returns is of tremendous significance to millions of Americans," Brech said in a year-end review. "When peak production is attained, approximately 2,108,000 workers will be employed by the aircraft industry itself and another 1,400,000 by aircraft subcontractors and suppliers."

Post-War Employment—"The Brexit president said the aviation in-

dustry has no thought of being able to maintain employment at anything approaching wartime levels, but that it recognizes its responsibilities in this connection.

The United States, he pointed out, will continue to need an air force second to none in numbers and in constantly improved efficiency and at the same time the nation will want to develop its bright prospects in the field of post-war commercial transportation by air.

Air Transport—"To do this, the country must have a strong plane producing industry capable of current on research and development at least on a competitive basis with other nations," he said. "The aviation industry can discharge these responsibilities successfully only if wise and fair policies are adopted governing the responsibilities of the peacetime war contractors, the termination of these contracts, and the conditions of its conversion after hostilities have ended."

Brech contends that the industry did not have time before the war began, nor has it been permitted during the past two years, to accumulate adequate reserves of capital to go ahead, entirely on its own, on a scale which can contribute most to the nation's war aims. Its already seen its brilliant engineering and production skill give the United States supremacy in the war in the air."

## Atlantic Shuttle

Brexit India announced that 11,000 planes have been flown from the United States to India. Probably as many or more have been shipped since then. Since the above fly-away figure has been published, it is reasonable to say that the number of American planes in combat, compared with the number delivered, is significantly small.

Look summer, during the War Department's Washington conference with war industries, labor, and the press, visitors were told that only 11,000 U. S. planes were in action with the Army Air Forces on all fronts. Deliveries to other belligerents, and the maintenance and repairs in the modification covers and other sections of the "pipeline" accounted for the rest.

## War's End Finds Railroads In Strong Competitive Position

Rails unlikely to be operating any air services in immediate postwar period but will be able to cut out rates and improve services.

By ROGER WILCO

The railroads are popularly supposed to be on the defensive and pictured as dreading the postwar era when the airlines will move in and garner all the choice traffic—both passenger and freight. Actually, nothing could be further from the truth.

Well known by now are the determined efforts being made by the railroads to be permitted to enter the air transport field. While a few railroads have already obtained limited by air route certificates, the more important roads have not. Their main interest is to have the unrequited right to engage in air service—such a course proves desirable as possible.

**Red Tape—Yet,** assuring that legislative mandate cleared the path for railroad entry into the air lines, it would take considerable time—measured in terms of years—before the administrative mechanics of the CAB or any other designated agency could possibly unwind to issue an air route certificate to a steam carrier. Examining certified airlines are in the way to new routes and routes are painfully slow. Certainly, the surface carriers will hardly find the course any smoother or more rapid, especially being the focal point of a heated legislative controversy.

On this broad premise and predicated on indicated CAB policy, it is highly unlikely that the railroads may be operating any air services at the immediate postwar period.

**Boards Improve Position.**—The railroads will, however, make their industries felt in their own field, once war restraints are removed. And it is this factor which promises to represent a formidable obstacle in the plans of the air carriers to broaden their markets.

Air transportation has received the plaudits in the retrospective sections, but the railroads have probably derived the greatest tangible

benefits from war inspired activity.

Projections indicate that the steam carriers will emerge from the war with a reduction of about \$1,000,000,000 in debt. As a result, the railroads will be able to service their capital structure, even if traffic and earnings decline to the lowest levels prevailing during the depression period. This condition will give the railroads a potent competitive weapon in contending with other transportation media.

**Fast Cuts Possible.**—In other words, passenger and freight tariffs can be cut sharply and all types of added and improved services provided. Under such circumstances, airline gains can very well be limited if not actually curtailed. For example, unless speed is all-important, very few passengers will be inclined to pay 5 cents per mile to travel by air when they can make the same journey on comfortable rail equipment at 2 or 3 cents a mile.

It is a startling fact that the airlines will show no appreciable improvement in the plans to be in service immediately after the war even those used prior to hostilities. Not so the railroads. Spending of technological progress and improvements, it is the steam carriers who can share material results—now and at the drawing boards. Light-weight passenger cars, faster speeds and lower operating costs are accomplished facts. This in turn means greater profits and permits lower fares. The Pullman Company, at the onset of the war, met with tremendous success in the installation of a new type tourist-sleeper car. This and other innovations in rail equipment promises to keep considerable passenger travel on the ground.

**Aircraft Gains.**—Contrasting the railroad financial gains, the domestic air carriers will end at about \$25,000,000 in net earnings to their capital in the two years since Pearl

Harbor. Admittedly, these earnings, together with about \$20,000,000 raised in new stock offerings, should strengthen the air carriers' financial position, but hardly compare with railroad accomplishments. Further, the airlines will be subjected to a constant drain on their resources for expensive purposes and will be in no position to enter into any competitive rate-cutting contests.

Readiness of the railroads to be displayed by the railroads in their future is indicated by a recent statement made to stockholders by M. W. Clement, president of Pennsylvania Railroad—probably the nation's strongest steam carrier. This statement pronounced the main policy to "perform a complete transportation service by rail, with such economical services as are necessary. . . . Aeronautical services can be restricted to certain special operations."

**No Substitute for Railroads.**—Nevertheless, "the Pennsylvania Railroad is confident that rail transportation will meet successfully and survive the competition to be expected in the future. It is sure that no other form of transportation can supplant railroad transportation."

Strong words, but they carry considerable substance and a warning that the airlines cannot afford to be complacent or take for granted any postwar gains at the expense of the railroads.

## Financial Reports

**Waco Aircraft Co.** reports a net profit for the fiscal year ended Sept. 30, 1943, of \$139,582 after depreciation, federal taxes and excess profits taxes, equal to 42 cents a share on 145,000 common.

This compares with a revised net profit of \$114,130 or 74 cents a share for the 1942 period. Net sales were \$1,042,440, compared with \$1,000,000 in 1942, with \$2,319,847 for the previous year.

## New UAL Preferred Conversion Price \$30

Rate set following authorization of 200,000 stock issue.

United Air Lines directors, following a meeting at which stockholders approved a \$10,000,000 financing plan, authorized conversion of the price for United's common stock at which new preferred stock is to be convertible until Jan. 1, 1935.

The stockholders authorized 200,

000 shares of 4½ percent cumulative preferred stock. The financing plan anticipates postwar development and expansion. In addition to authorizing 100,000 shares of 4½ percent \$100 per cumulative preferred stock, the plan includes a change in name from United Air Lines Transport Corp. to United Air Lines, Inc., increase in authorized common stock from 3,000,000 to 3,500,000 shares and an increase in the par value from \$5 to \$10 a share, and authorization of 100,000 shares of noncumulative stock. Company expects to issue immediately 100,000 shares of the 200,000 preferred.

Thirty-three investment firms, headed by Herriman, Riley & Co., have been named to underwrite the plan.

## Canadian Output Up

All Canada's combat type airplanes are in production on a steadily rising curve. The Canadian War-time Information Board indicates that there now is an increasing number of first-line modern fighters to be delivered each month to the fighting fronts.

Canada makes Lancaster four-engine bombers, Mosquito twin-engine fighters, Catalina flying boats and Curtiss Mustangs as well as the Nordynan Naravan transport, Fairchild Corsair, North American Harvard, Grumman Avenger and Bristol Blenheim single and twin-engine trainers.

## Convair Workers Get Management Courses

Training offered at U. of Arizona two nights a week.

Employees of the Tucson division of Consolidated Vultee Corp. may enroll in a course in industrial management which will be offered at the University of Arizona two nights a week, starting this week. This opportunity has been made possible through the Engineering Sciences and Management Institute program, which has made similar arrangements for war workers in other vintages.

The course, which will require 14 weeks for completion, includes types and functions of machine tools, job description and methods, motion analysis, accounting and job standards, wage functions and wage setting and management and other operating functions. It will be offered to Convair workers without charge.

A new organization, Airlines Clearing House, Inc., devoted to expediting passenger revenue according to the United States and Canada, will be headed up by E. L. Whyer of St. Paul, vice-president and treasurer of Northwest Airlines. Whyer will re-



main in these capacities with Northwest, and, as president of the new clearing house, will work with other airline executives in directing the organization's activities. He already has been named a member of the board of directors.

Other airline officials were elected to the board. They are V. J. Long, assistant treasurer, American Airlines; George Fleming, assistant of operations, United Air Lines; G. O. Tomlin, advisor, Transcontinental & Western Air; T. P. Armstrong, secretary-treasurer, Eastern Air Lines; L. B. Auld, president, Delta Air Corp.; and A. Adams, secretary-treasurer, Braniff Airways.

Adoption of the clearing house system, last of its kind ever used by the passenger industry, will provide the airlines for the greatly expanded passenger traffic capacity after the war, according to Whyer.

Donald S. Wolf, former assistant service manager, has been promoted to the post of service manager at the Ranger Aircraft Engines division, Fairchild Engine & Airplane Corp. Wolf, who holds a private pilot's license, having been with the firm since 1935, joined Ranger in 1937 as a draftsman. He later became service engineer and then assistant service manager.



Norman C. Sefan is the newly appointed manager of Consolidated Vultee Aircraft Corp.'s 141st division. His replacee W. A. Henshaw, who has resigned, rather has been active at aviation for 15 years, following his graduation from the University of Washington in 1926. He served with the Boeing Aircraft Co. at Seattle in that post, and worked his way up through successive positions to become production project supervisor and assistant production manager. He left Boeing January, 1941, to join Vultee Aircraft at Downey, Calif., as manager of the business office. When Consolidated and Vultee merged, Sefan retained the same position at the Vultee Plant in Downey last July. Since that time he has been in the staff of C. W. Probst, vice-president in charge of manufacturing, at San Diego.



The new Philadelphia and New England offices of Dow Chemical Co. have opened, will be headed by Alexander Leisk, Jr. (right), and Alfred A. Lawrence (left), respectively. Leisk has



been with Dow New York sales office for the past 28 years and Lawrence, a native New Englander, has been with the company since 1936. Staffing the Philadelphia office will include Frank H. Schaefer, assistant sales manager; Elmer E. Nathan, plastic engineering; and Charles E. Sol, heavy chemicals and pharmaceutical sales in the New England office in Boston, will be Felix A. DeLoane, heavy chemicals and pharmaceutical sales; M. J. Mahoney, plastic engineering; and Pauline Darby. Sol is a man to handle magnesium sales in this office.

Donald Upshaw has been named supervisor of reservations and ticket offices in Washington by American Airlines. He succeeds R. W. Bates, now civilian personnel supervisor and ticket office in New York.



Robert L. Ware, Jr., recently appointed district traffic manager in North Africa, has arrived at his overseas destination to join the passenger cargo division of the Air Corps early last year, and previously represented the company as district traffic manager in Newfoundland and in the Trinidad-Grenada-Tobago area.

**Capt. John W. Lawell**, former state director of aeronautics for Massachusetts and for a time executive officer of the Massachusetts Civil Air Patrol group, is continuing in action in the Bureau area, according to official notice from the War Department.

**Gen. Benjamin S. Cune**, USN (naval aviator) has reported for duty in the Personnel division, Bureau of Aeronautics, Washington.

**Capt. Hugh H. Goodrich**, USN (naval aviator) has been detached from the Aviation Planning division. Deputy Chief of Naval Operations (A1).

Some personnel changes in American Airlines de Mexico have been announced by Halls R. Thompson, president. Stanley G. King has been appointed vice-president and director general, and is succeeding in general traffic manager in Mexico by George R. Covey, former traffic manager in San Francisco.

Covey, in turn, is replaced by Del D. DeWane. Frederick F. de Herdt, traffic manager in Mexico City, has been appointed assistant to the president and director of passenger.

He is succeeded by A. Guesen Polaris, former traffic manager in Monterey, who is replaced by Fernando Lopez.

New employment managers of American Export Airlines is G. C. Seale, who will be with the Relief Credit Co. in charge of setting up their various offices throughout the country.



Capt. H. O. Hest Anderson (right), of New Orleans, who heads the first flying Chicago and Southern Air Lines' military and flight personnel.

has been named chief pilot in charge of all flight officers. He succeeds Capt. Ross Knight (left), who moves up into the post of superintendent of flying and director of military cargo. Anderson, who will be transferred from New Orleans to Memphis, has logged more than 12,000 hours during his 16 years of flying. During his career he has flown as pilot for Coast Airways in Los Angeles, and was also the first pilot to be employed by Pacific Northwest Air Lines, which is because Chicago and Southern Capt. Knight, who has been named superintendent of flying and director of military cargo, has flown more than 12,000 miles during his long career as a pilot.

In his new job, he will have charge of all Chicago and Southern pilots and first officers. Anderson, however, has been flight training at March Field in 1929. His advance training was received at Kelly Field, San Antonio, where he was stationed for 18 months with the 2nd Bombardment Group at Langley Field. He flew the mail between Chicago and Kansas City, and was later transferred and was included among a group of American pilots who created the first military flying school for the Central Postal Directory. He was also director of the company's military cargo operations. Knight succeeds Capt. Glenn Reddish, who has relinquished his position as superintendent of Southern commercial operations as flight captain.

J. A. Young, general manager of Chicago and Southern Airlines Modification Center at Memphis, has been named assistant to Bruce E. France, vice-president in charge of operations. He will supervise all maintenance, modification, engine overhaul, engine testing, purchasing, stores and coordination of Army contracts. Young learned to fly in 1925 at Little Rock, and later became manager of Adams Field in that city. He has been associated with Commanders, Inc., an airplane manufacturing and aviation sales business manager of the Modification Base by A. Todd Goodrich.

Edward H. Fisk has been named merchandise manager of the combined aviation, aviation and government sales division of the H. F. Goodrich Co., according to G. R. Bremer, general manager of the three divisions. Fisk joined the company in 1931, after being graduated from Williams College and served before in Business Administration. After serving nine years in the credit and sales departments of the replacement tire division, he was transferred to his present division on special assignment in 1940 and has been division manager since May, 1943.

John J. Daly, chairman of the board of City Lines, Ship Co., Bremer Ship Corp., and Tropical Ship Co., has been elected to the board of directors of Flying Aircraft Corp. He is also a director and director of Republic Aviation Corp.

L. V. Teske has been appointed boundary manager of the Globetrotter Motor Co., Madison, Wis. He has been in a similar position with Kheeling Co., Milwaukee, during the past twelve years.

Ralph L. Wilson, former chief of the construction steel section of the Metallurgical and General Engineering Division, War Production Board in Washington, has joined Trenchard Miller Stearns Co., an chief metallurgical engineer. Wilson was formerly with Trenchard as metallurgical engineer in the steel and tube division for ten years, and before that he was with the development of the United Alloy Steel Corp. and Central Alloy Steel Corp. for six years.

He is active in the affairs of the American Society for Metals, of which he is a former trustee, and is the American Society for Testing Materials, the American Society of Mechanical Engineers, and the American Welding Society.

R. Raymond Bell, public relations director of President-Elect-Central Airlines, has been appointed publicity chairman for the 1944 celebration of the President's Birthday in Washington. Bell was chairman of publicity for the Civilian War Services Division of the District Government.

Col. George C. Price has been named chief of the Office of Flying Safety, Headquarters AAF. Col. Price has been deputy chief under Col. Russell Harris who started the office but who has been transferred to the Second Air Force. Col. Price was awarded his wings in 1935 after graduation from Brooks and Kelly Fields in San Antonio. After a tour of duty with the First Pursuit Group at Selfridge Field, Mich., Col. Price went on reserve status and in June, 1938, became one of the first two pilots of TWA, then Transcontinental Air Transport. He was a TWA pilot until 1942. He is co-leader of aircraft as president of the Electrical Manufacturing Co., Battle Creek, Mich., manufacturers of filament steel parts for electrical companies.

Col. Price and his staff are stationed at Winston-Salem, N. C., headquarters for the Office of Flying Safety.

## TRANSPORT

### All American Seeks to Extend Lines to New York, Albany, Boston

Hawthorne Airways files for North and South Carolina routes; Albany-Plattsburg permit sought by Crazy Air Transport.

Three applications for air pickup routes were filed with the Civil Aeronautics Board last week. One came from the pioneer in the field, All American Aviation, which seeks to expand its property and mail operations to New York City, Albany and Syracuse, and into the New England states to Boston.

All American aviation enters also into the request for pickup air services filed by Hawthorne Airways of Orangeburg, S. C., which says that the former company has offered all assistance possible in helping them set up this service throughout North and South Carolina.

**Albany-Plattsburg Line** — The third pickup application was filed by Bruce L. Crazy of Johnson, Mass., who, as Crazy Air Transport, wants

to carry mail, passengers and property in both landing and pickup operations between two bases, Albany and Plattsburg, N. Y.

Anticipating some curtailment in military cargo operations in which it is now engaged, All American said it expected some aircraft and personnel to be released for commercial operations at an early date. Company says it is in position to get equipment for operations immediately over the proposed new routes, which would add 3,000 miles to its present A.M. 84.

**Alternate Routes** — The right new routes include alternates between New York City and Hartford, Pa.; two between New York and Syracuse, two between New York and Boston, one between New York and

Albany and one between Albany and Syracuse. It proposes to serve all the many intermediate points on these routes with two round trips daily, starting with day contact operations.

Application of Hawthorne Airways is least weight by the stated assurance of All American Aviation of its willingness to cooperate and even release personnel, if they can be spared, to assist Hawthorne in setting up its operations. They have offered to make operating records, manuals and procedures available to Hawthorne.

**Service to 167 Points** — Hawthorne's application covers a total of 1,788 miles, with service proposed to 167 points, by landing, others by pickup and still others, adjacent, by passenger service. Company expects to start operations for mail and property only, but when suitable equipment is available, they would carry passengers also. Hawthorne, indicating that some second-hand planes might be immediately available, specified Boeing SR-10C fighters with 360 hp Lycoming engines.

Hawthorne's list proposed routes would run from Orangeburg, N. C., to Richmond, to Rocky Mount, N. C., to Columbia, S. C., and to Spartanburg, S. C.; also between Richmond and Rocky Mount, and between Charlotte and Spartanburg. Other one plane for each of the six routes,



### PCA OPENS TRANSITIONAL SCHOOL:

Several of the eight DC-3s in which Pennsylvania Central Airlines is giving transitional training to Navy Air Transport Service pilots at Knoxville, Va. Picture

was taken at Woodrum Field on the ship moving out for training following ceremonies which opened the Navy's new transitional school.

with two reserve places, they proposed to serve 127 towns, 136 of which have no air service.

**Flying Experience.**—Executives of the company have many years' experience in the aviation field. Beverly H. Howard, president and treasurer, is said to be one of America's leading exponents of precision aerial acrobatics. He served as a pilot with Eastern Air Lines for four years, and for some years has operated the Hawthorne Flying Service, at present a contractor with the CAA War Training Service program. A further operation, the Hawthorne School of Aeronautics, is a primary training contractor to the Army Air Force.

Vice-President John A. Cieski, on leave as a captain in the Army, was formerly assistant director of the Hawthorne School of Aeronautics.

Three other officers are former CAA employees. Joseph J. McIntire, Jr., general manager, was superintendent of CAA war training service in the second region. He is a pilot and has been with Curtiss-Wright Sales Corp. head of aircraft laboratories at the Texas Pacific Coal and Oil Co., and with Southern Air Transport.

**11 Years in Aviation.**—Superintendent of operations for Hawthorne, William G. Coates, was a former CAA Assistant Aeronautical Inspector at Oakland, Cal., and was chief director of aeronautics for Tennessee. Former CAA maintenance supervisor as the second region at St. Louis, Mo. who will serve as superintendent of maintenance for the new company. He has been in

aviation 11 years, at the Curtiss-Wright airport in Grand Prairie, Tex., and in service and overhaul for Braniff, Charles E. Howard, who has been with the Hawthorne companies since 1936, is secretary of Hawthorne Airways.

Northwest Airlines requested two new routes. A direct route sought between Boise, Mont., and Portland, Ore., via Pendleton, would reduce the present airline mileage between the two cities by 364 miles. Northwest also asked permission to establish a route between Milwaukee and Spokane via Green Bay, Wis., Duluth, Minn., Fargo and Minot, N. D., and Great Falls, Mont. Fargo and Spokane are already served by Northwest, but this new route would give the territory between Fargo and Great Falls its first air service on an east-west line from ocean-to-ocean, according to Cecil Hunter, president. This was proclaimed as Northwest's application for service between the Twin Cities and New York being approved.

**Colorado Routes.**—Mountain States Aviation, Inc., and Mountain States Aviation Co., of Denver, requested four circular routes out of Denver to various points within Colorado. Passengers, property and mail would be carried.

"The cotton fields of the south have our own classrooms," says the application of Dixie Airways, Leland, Miss., which asks to carry mail, persons and property on two routes between Gulfport, Miss. and Memphis, Tenn. Head of the company, Joe Bell Clark, operates the Dixie Airplane Training Co.

Eastern Air Lines filed an amendment to a previous application in which it asked to extend route 4 from Columbus, S. C., to Detroit. The amendment seeks to include Wheeling, W. Va., among intermediate points previously requested. This point is almost exactly on the line of the proposed route, the application stated, and will increase the overall mileage by only one mile.

## Midwest Meeting Set To Discuss Airports

Kansas City Chamber of Commerce schedules conference for Jan. 24-25.

A meeting to discuss airport needs and interests of local communities is set for Jan. 24 and 25 by the Aviation Department of the Kansas City Chamber of Commerce.

**City Officials Invited.**—Chamber of Commerce officials will invite representatives of municipal officials in towns and cities of 1,500 or over in a nine-state area will attend, from Missouri, Kansas, Iowa, Nebraska, South Dakota, Wyoming, Colorado, Oklahoma and Arkansas.

The meeting will be the second regional gathering under the department's auspices, and is a direct outgrowth of the local air service conference last November at which more than 348 persons representing 85 cities in the Kansas City area talked about trade area air service. It became apparent then that the principal interest of virtually all the delegates, and especially those from the smaller cities, was in the proper development and use of local airports.

**To Aid Local Areas.**—Chamber officials seek to make the January conference "a day made" to needs and interests of the local communities. Already more than 40 municipalities have sent questions and problems they wish discussed.

Among topics to be considered are airport uses and requirements, to be explained by representatives of light plane manufacturers, airlines and the Civil Aeronautics Administration; operation and maintenance of airports, including both small municipal airports and privately owned fields, financing of airports both from the standpoint of existing municipal funds for construction and development and the producing of income from airport activities, the importance of airport air service, repair and training on local airports, the relationship of airports to college aviation training, and the future of Army airports.

## Michigan Board Maps Laws on Air Control

Action eyed as move to regulate interstate aviation.

Michigan Board of Aeronautics, at Lansing, indicated it would make a first bid for control of interstate aviation when it suggested a subcommittee of the state Aviation Advisory Committee to draft proposed regulatory legislation.

The Board recently granted license to Great Lakes Skyways, Inc., subsidiary of Great Lakes City-hoisted Lake Lines, to operate two commercial helicopter lines in the state. The license was issued on recommendation by the Michigan Public Service Commission, whose chairman said, however, that Great Lakes Skyways definitely cannot operate until the state legislature, meeting this month, declares the state's authority to regulate air transportation.

**Seeks to Curb PSC.**—The proposed legislation on which the aviation subcommittee is working, meanwhile, would limit the Public Service Commission from passing on certificates of convenience and necessity in interstate airways operations positions. It would be turned over to Gov. Henry F. Kelly for presentation before a special legislative session.

The subcommittee includes attorneys from the Aviation Committee of the Michigan State Bar and a member of the state attorney-general's staff. It is headed by Kit F. Clardy, Lansing attorney, who is legal counsel for trucking interests, and Menno Bolt, Grand Rapids, Keweenaw promoter.

**Opposition.**—Indicating that the group will continue to fight the airlines, the advisory committee and legislation to control interstate aviation is necessary because present Michigan laws have not delegated jurisdiction in this respect to the "present ambiguous situation" must be clarified so that "prospective airline operators will have a definite jurisdictional body to whom they may apply."

Meanwhile, the committee, which is advisory to the Michigan Planning Commission, came out with an open letter soliciting help against the Civil Bill (H. R. 3430) to create the Civil Aeronautics Act. Signed by Bruce E. Anderson, chairman of the committee, the letter said "however bold and selfish interests are working day and night in Washington to force through Congress legislation that would stand in the way of development of civil aeronautics in this country



## SLIDE SPEEDS UNLOADING:

This new wooden slide has been found so popular by American Airlines as an answer to unloading problems that the company expects to install similar equipment at stations throughout its transcontinental system. The device was given a two weeks' tryout before its acceptance was announced.

for generations to come." Reference was to the Civil Bill specifically "and all other legislation of this type."

**State Rights Involved.**—Pointing out that the pending legislation may come to the floor of the House early this year, the committee letter added that "these measures would not only further undermine upon State Rights and strike a body blow at these people directly engaged in or interested in the development of aviation, but also rob American citizens of their right to modern, low cost air transportation facilities."

In an enclosure, the committee circulated its resolution requesting that Congress "kill all such legislation" and that no aviation legislation be adopted until at least six months after the war ends.

## Lee Loses Status As CAB Member

Senators fail to take action on his nomination for reappointment.

By MERLIN MICKEL.

With Senate action on his reappointment to the Civil Aeronautics Board still pending, and Congress away from Washington, Jack Lee could be a member of the Board Dec. 31.

Some Board sources said he would become an inactive member, but

Lee said he knew of no such degradation. In any event, expiration of his term on that date meant that he could not participate in Board action and would not receive pay from that date until such time as the Senate approves the reappointment, if it does so, as expected, and he thereafter takes the oath.

**Named for 4-Year Term.**—Former Senator from Oklahoma, Lee has been a Board member since Feb. 9, 1943. Mr. Roosevelt sent his reappointment for a full one-year term in the Senate Dec. 2, but it expired in the Senate Commerce Committee when Congress adjourned to reconvene Jan. 10. By resolution the Senate preserved the status quo of this and other nominations at adjournment.

Lee's position is not without precedent. Appointments of Civil Aeronautics Board members have gone over without confirmation for several days after terms expired on at least two previous occasions in some government posts, the incumbent carries on until his successor takes office, but this is not true in CAB, where terms expire on definite dates.

**Opposition Unlikely.**—There were indications that the opposition to Lee's original appointment would not occur when his term is before the Senate for confirmation this year. Senate action on this had been expected since last year, but



## EARLY CABIN PLANE:

This 1926 plane has been produced by United Air Lines as a picture of what it believes was the first cabin plane in the United States. R. D. "Red" Edwards (left), now Chicago station manager for United, expressed the observation of the H. Hamilton plane, shown here on the old Checkerboard Air Field at Maywood, Ill., when he was a mechanic for the Post Office Department air mail service. The covered cabin seats two passengers.

# Who can use this after the war?



SO far this is definitely a war baby. It was born to meet an existing wartime need. Every one that is made goes right into the fight.

It is an electric motor designed for jobs which no regular electric motor could fill.

The jobs are on America's fighting planes. Working control flaps—opening and closing cooling shutters—lifting landing gear—and the like.

Every ounce on an airplane is precious. So usual electric motors were out.

This one weighs as little as 8/10ths of a pound—others can move as much as 35 tons.

Naturally it took a whole new kind

of engineering to make this motor.

It took new ideas from the drawing board up. It took new materials—like glass-insulated wire—so build it. It required finer, more precise craftsmanship than had ever gone into a motor before.

After the war, these motors can be sold to manufacturers of peacetime products.

That is why we are telling you about these now.

You may have need for such a compact, ultra-efficient source of power. You may be able to use the kind of engineering thinking that developed in—or the production technique that builds it—and about 250 other Lear products.

**LEAR  
AVIA  
INC.**  
PIQUA • OHIO

PLANTS: Piqua, O., and Grand Rapids, Mich. BRANCHES: Atlanta, New York, Los Angeles, Chicago, Detroit, Cleveland, Providence.

been quoted in Oklahoma newspapers in the effort that he would make no protest. Senator Thomas of Oklahoma has written the committee chairman the resignation.

The Board chairmanship of L. Welch Pogue and vice-chairmanship of Edward P. Warner also were to expire Dec. 31, but the President was expected to renounce them in those posts before that date.

## United Cites Gains In 1943 Traffic

Revenue passenger miles up 33 percent, mail ton-miles 61 percent, express ton-miles 7 percent.

In a year-end review, W. A. Patterson, president of United Air Lines, reports that United's 1943 gains, with December estimated, will run 33 percent in revenue passenger miles, 61 1/2 percent in mail ton-miles, and 7 percent in express ton-miles over 1942.

This compares with the 16 percent, 33 percent and 34 percent in those categories, respectively, estimated last week for all the airlines by Col. Edgar S. Gorrell, president of the Air Transport Association.

Revenue Phase Miles Off—Because of reductions in its fleet of planes, due to the war, United's revenue phase miles dropped 3 percent in 1943 under those flown the year before. Annual wartime constraints were responsible for all-time highs of 327,000,000 revenue passenger miles, 12,638,000 mail ton-miles, and 3,842,000 express ton-miles.

These totals, again with December estimated, compare with actual totals in 1942 of 280,373,320 revenue passenger miles, 8,727,977 mail ton-miles and 3,678,383 express ton-miles. Revenue phase miles were 11,300,000 against 22,100,000 in 1942.

Patterson cited United's new financing plan and proposals to spend between 10 and 30 million dollars for development immediately after the war, including contemplated expenditures for four-engined 48-56 passenger, 288 mph airplanes to cut United's travel time a fourth and make 12-hour coast-to-coast service possible. As part of the expansion program, United's purchase of control of Linesa Aerea Mexicana, S. A., airlines in Central Mexico, was mentioned.

Rates Reduced—As other high spots in the year, he referred to reduction of passenger rates by about 18 percent to a 51 cents-a-mile average, and a drop of about

## Helicopter Cabs

The Pennsylvania Public Utilities Commission has been asked by the Yellow Cab Co., of Pittsburgh, according to Paul L. Houston, president, for permission to operate helicopter service between the airport, downtown Pittsburgh and elsewhere in Allegheny county in the postwar period. War-time flyers are expected to pilot the planes.

Bayona, Ore., as a Pacific Coast stop, and has opened coast-to-coast con-terminous service. Five DC-3s turned over to the government in 1942 were returning during 1943.

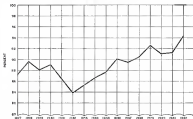
Pittsburgh's report referred to applications United has filed with the Civil Aeronautics Board to add 65 cities and approximately 6,675 route miles to its system.

## Ferry Services Shift To Long Wave Radio

Six stations set up in North Atlantic and Arctic.

A shift to long-wave radio communication as an aid in the North Atlantic ferrying of aircraft was disclosed by the War Department

Ratio of Trips Completed to Trips Scheduled in Domestic Air Transport Operation

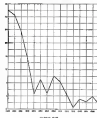


CALENDAR YEARS

Passenger Fatalities For 100,000,000 Passenger Miles

## AIRLINES' NEW RECORDS:

These charts illustrate safety and service records of the domestic airlines. The accident rate dropped to 2.3 per 100,000,000 passenger-miles for the year ended last Nov. 30 from about 7.1 for the year from 1937 to 1939, with only 1937 exceeding the record for those twelve months. The other chart graphically demonstrates the rise in regularity of service. Where the percentage of scheduled trip completion never had risen above 92 1/2 before 1942, last year it was just over 94, and the first six months of this year promised a further slight increase.



CALENDAR YEARS





## Plywood Possibilities

ARMY, NAVY AND CONGRESS were charged with a failure to support the full development of plywood aircraft construction in this country in a recent address by Lawrence Ottinger, president of United States Plywood Corporation, before a New York Stock Exchange group.

Mr. Ottinger said that more than two years ago he returned from Europe with information regarding the now famous Mosquito all-wood warplane. When he offered the data to Army and Navy, their officials said "we will build our own planes." He contended that the Department of Agriculture's Forest Products Laboratory at Madison "has been begging the government for funds to develop engineering data on plywood planes for years. . . . England knew a good deal more about plywood in its technical sense than we did." Much of the plywood for the Mosquito, called the world's fastest plane, is manufactured in the U. S., Mr. Ottinger said. Most of his charges appear to be substantiated.

"Prejudice" of the services against plywood has been a popular subject of debate for years. Congress of Army and Navy officials is that they were slow in awakening to plywood, but that in the last two years they have recommended to Congress the suitable appropriations which have been made to the Madison Laboratory for extensive and successful work. It is known that in 1940 General Arnold ordered all available experimentation. In this line, the Navy never has shown significant interest.

ARMY OFFICIALS also point to "considerable achievement" in wood design by the American aircraft industry, the Beech AT-10 and the Fairchild AT-21 are both constructed almost entirely of wood; partly made of wood are the North American AT-8, the Vultee BT-13, the Fairchild PT-10, Cessna AT-17, Beech C-43, Fairchild C-61, the Howard GH Navy transport, and the Waco C-2. The glider program should be included in any wood design summary too, they say, because it adds up to considerable tonnage.

Nevertheless, the timber program is dwindling

and action to capitalize on our studies has been almost nil.

Important research has been conducted by the laboratory in the past two years—so valuable in fact, that British government aircraft officials recently requested that a technical mission be sent to England from the laboratory to report on its research progress on aircraft plywood and plywood components. The mission, comprising five forest products men and a representative of Civil Aeronautics Administration, has now returned from a 60-day tour. They report that U. S. plywood research is well ahead of that of Britain—the world's leading user of wooden planes. In application, however, Britain, with 60 warplane and trainer types of varying percentages of wood, and 69 percent of its propellers of this material, is far ahead of the U. S.

So now, after liberal appropriations, we have become the world's leaders in aircraft plywood research, but outside of a few training planes of wood we aren't doing anything about it. That is the basis for current complaint.

Army and Navy air officials make no secret that they are metal-minded. They are rightfully against any disruptive changeover to wooden warplanes in the midst of a global air war. But proponents of wood feel strongly that design and construction of new warplane types should be started. They are convinced that the importance of the project rates the few engineers who would be needed, and that plant facilities exist without any interference with the metal plane program.

Despite the finest research in the world, we are using less wood in aircraft today than we were using six months ago, and as requirements now are set up we shall be using even less in the future than we are today.

It is no reflection on our aircraft industry to advocate using all available aeronautical research at our command to help end the war. The commercial aircraft industry certainly will explore every possibility of wood when the war is over, but why wait until then?

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